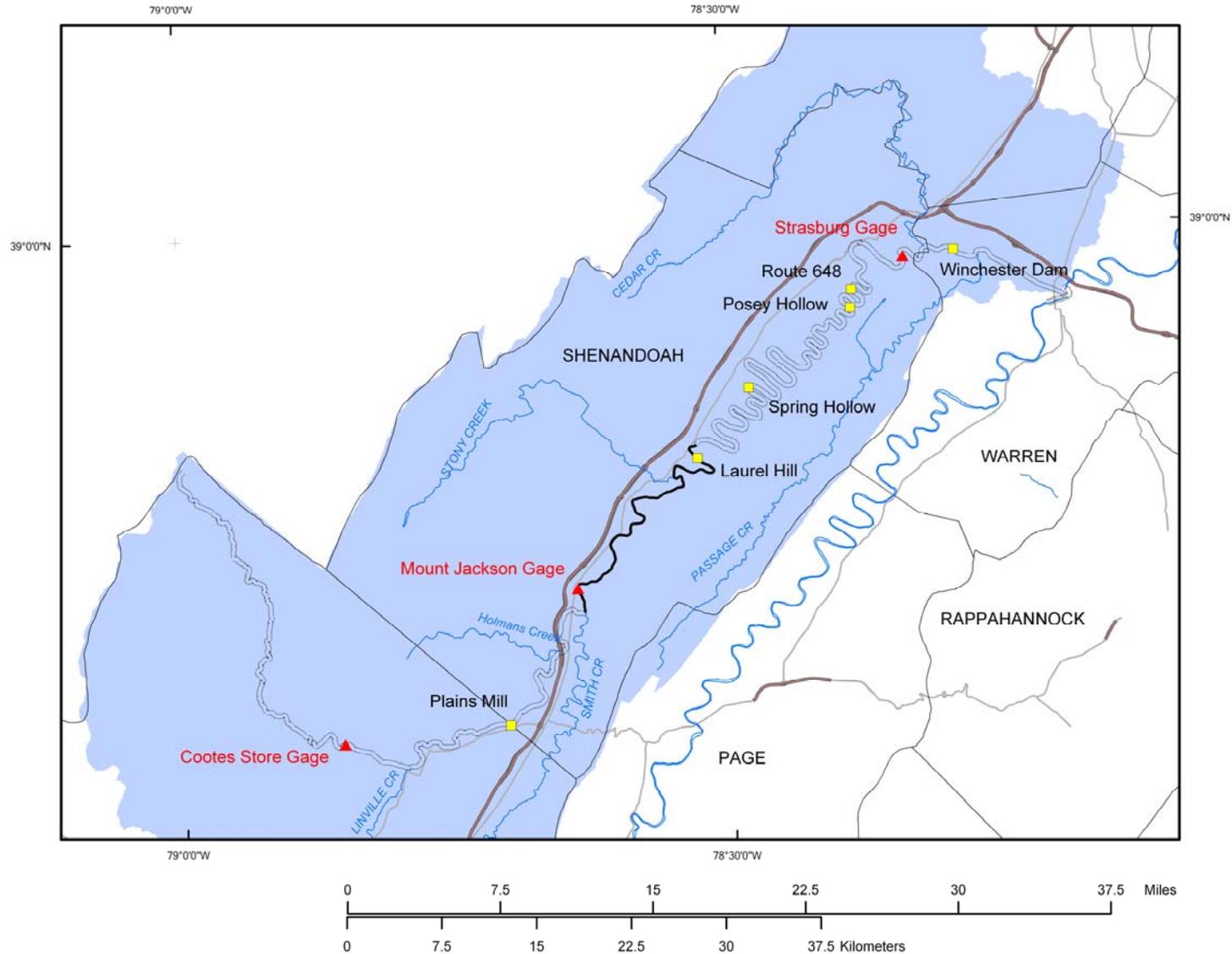


Virginia District Programs in the Northern Shenandoah Valley

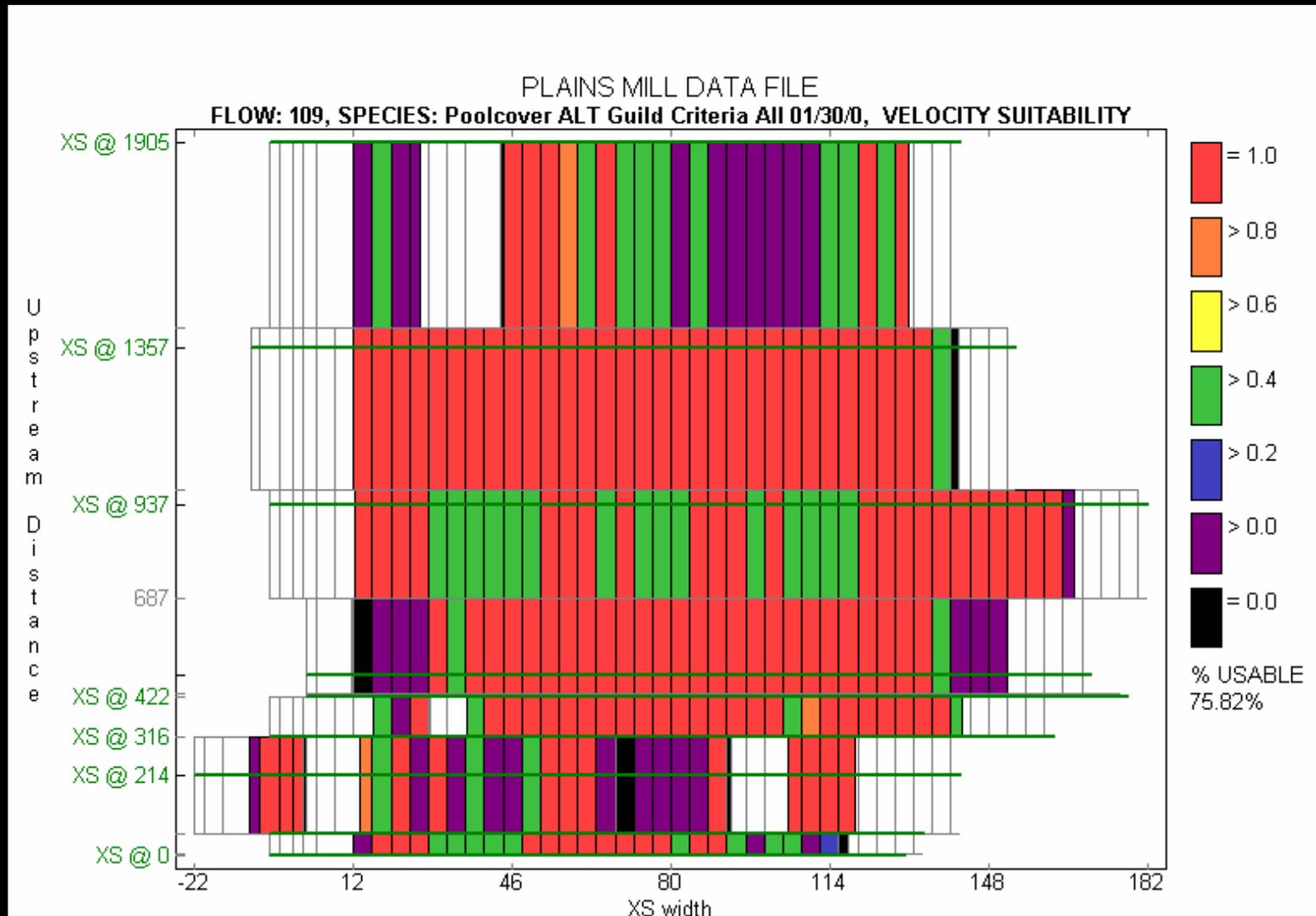


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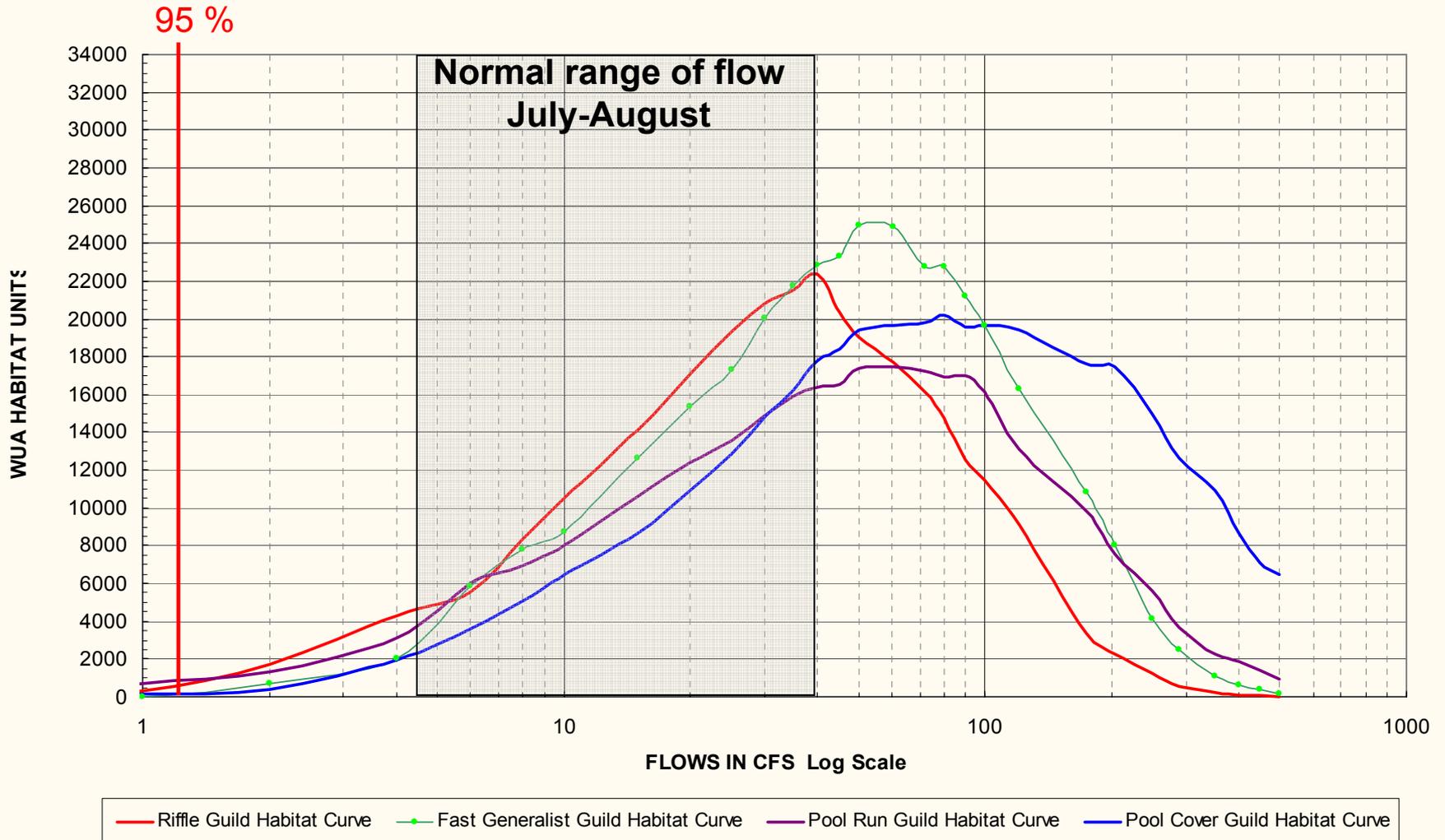
North Fork Shenandoah River Basin Instream Flow Study Sites



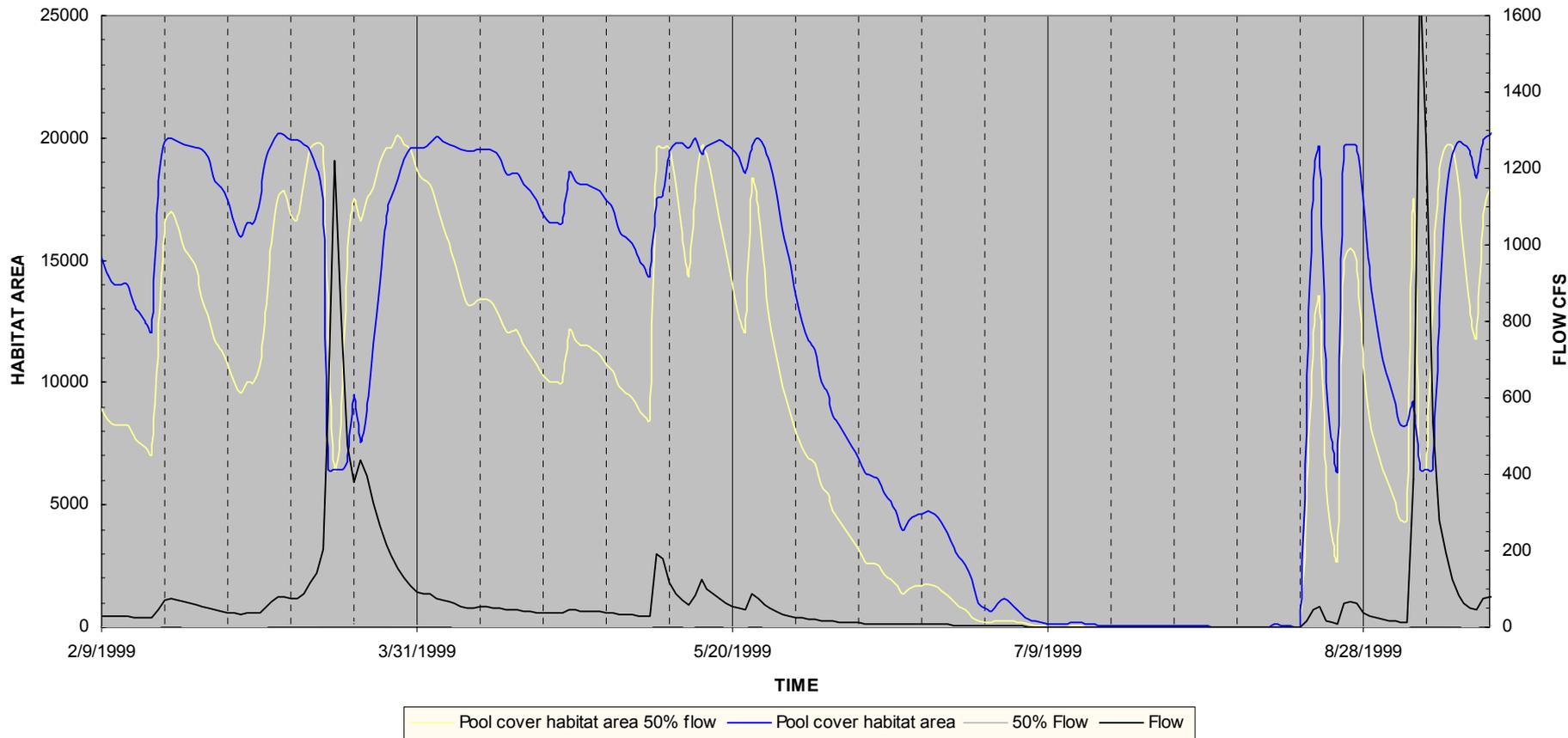
Cell-by-cell Habitat Suitability: Velocity, Depth, Substrate



Usable Habitat Area for the Upper North Fork Shenandoah River near the stream gage at Cootes Store, Va.



Habitat Area Timeseries for Pool Cover Fish Guild 1999 Normal Flows, and 50% Less Flow



Application: Data, Knowledge, and Management



Report is currently in Editorial Review

U.S. Department of the Interior
U.S. Geological Survey

Prepared in cooperation with

Northern Shenandoah Valley Regional Commission

Water-Quality Synoptic Sampling, July 12 - 30, 1999: North Fork Shenandoah River, Virginia

Scientific Investigations Report 2004-xxxx



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Water-Quality Synoptic Sampling, July 12 - 30, 1999: North Fork Shenandoah River, Virginia

By Jennifer L. Krstolic and Donald C. Hayes

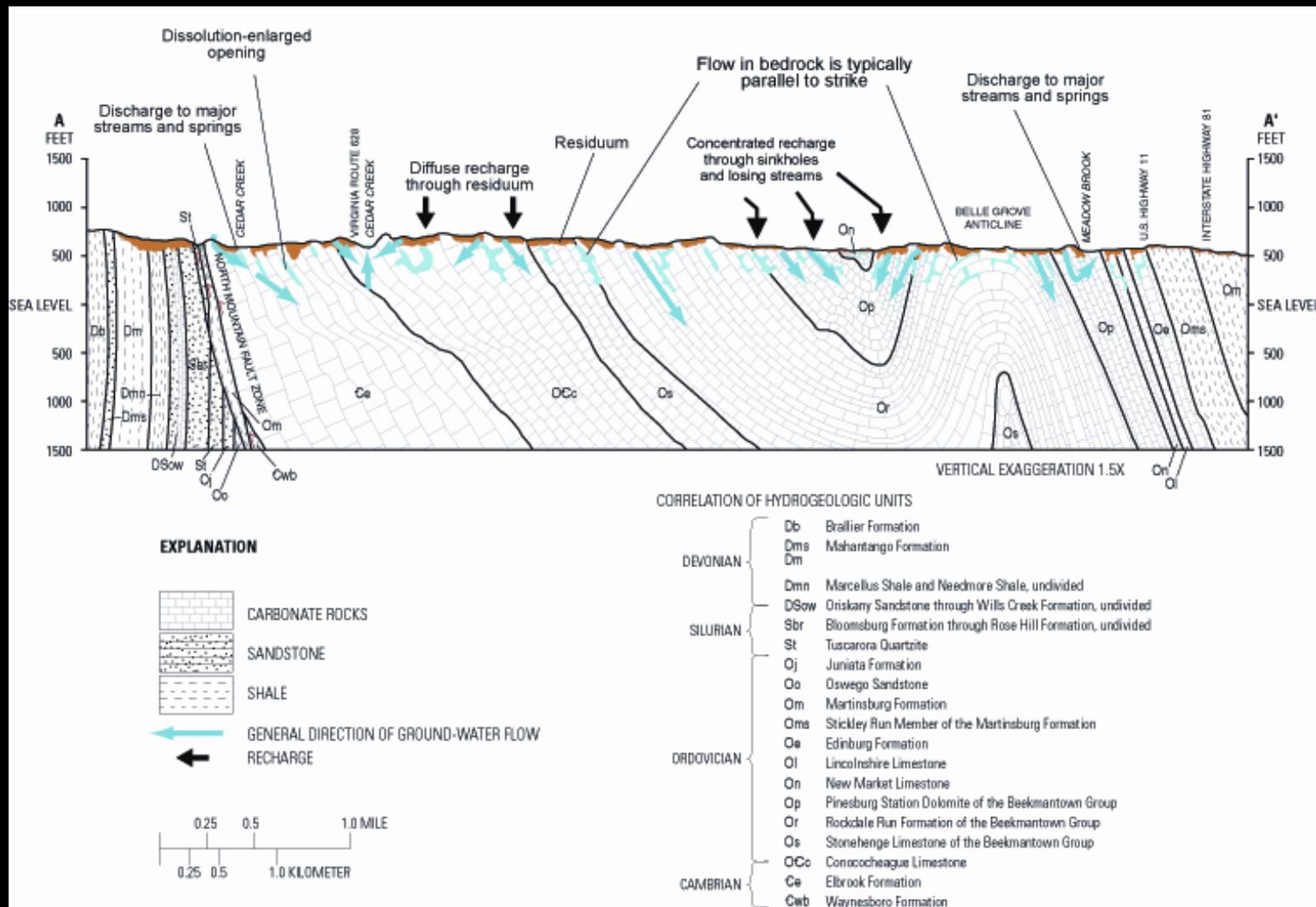
Scientific Investigations Report 2004-xxxx

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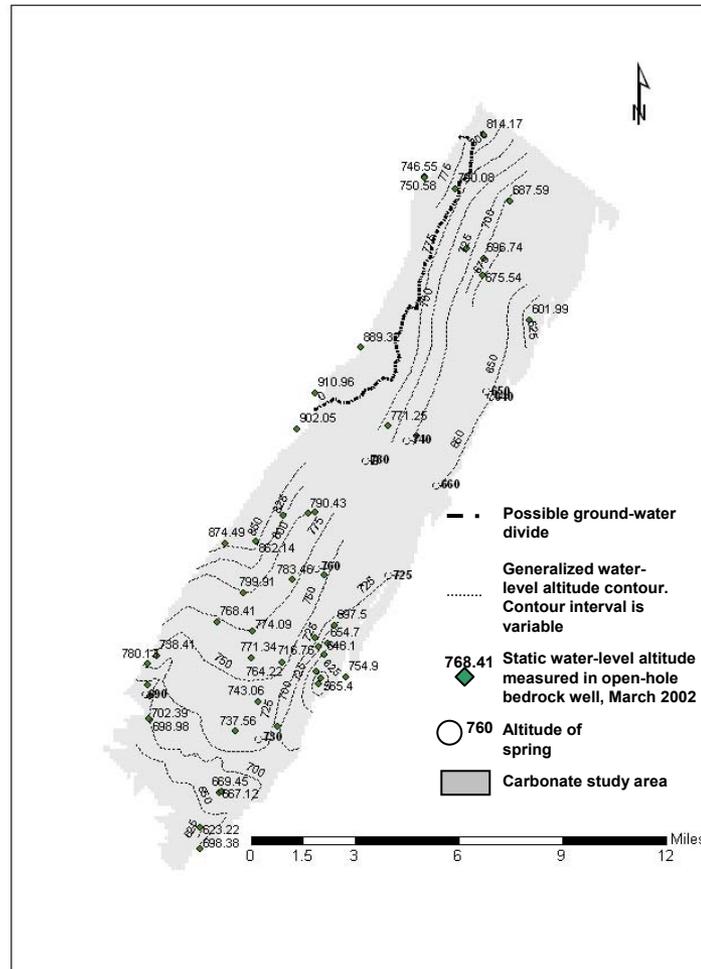
Northern Shenandoah Valley Regional Commission

Richmond, Virginia
2004

Generalized Hydrogeologic Section across the Frederick County Carbonate Aquifer System. Modified from Orndorff and others (1999) and Wolfe and others (1997).



Generalized altitude and configuration of the water table, March 2022, Frederick County, Virginia



Streamflow Partitioning and Estimated Recharge for Surface-Water Gaging Stations in the Cedar and Opequon Creek basins

	Station number	Mean base flow [effective recharge] (in.)	Mean streamflow (in.)	Base flow as percent of streamflow	Gage datum elevation (ft.)	Drainage area (mi ²)	Period of record
Cedar Creek near Winchester, Va.	01634500	7.7	12.9	60	647.09	102	1938-2002
Cedar Creek near Winchester, Va.	01634500	6.2	10.3	60	647.09	102	2001-2002
Cedar Creek above Highway 11 near Middletown, Va.	01635090	5.8	9.1	64	525	153	2001-2002
Opequon Creek near Stephens City, Va.	01614830	3.3	3.9	84	705	15.2	2001-2002
Opequon Creek at old Route 628 near Opequon, Va.	01614820	*3.5	*3.8	92	750	10.6	2001-2002
Opequon Creek at Route 622 at Opequon, Va.	01614805	*3.8	*4.4	86	825	2.47	2001-2002

Annual Water Budgets for Cedar and Opequon Creeks, 2001-02

Station	Station number	Year	Precipitation (in.)*	Streamflow (in.)	Change in ground-water storage (in.)	Evapotranspiration, other losses, and error (in.)
Cedar Creek above Highway 11 near Middletown, Va.	01635090	2001	33.1	9.0	-1.8	25.9
		2002	41.2	9.2	1.3	30.7
Opequon Creek near Stephens City, Va.	01614830	2001	33.1	3.7	-0.4	29.8
		2002	41.2	4.0	0	37.2

Draft report is currently in Supervisory Review

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U.S. Geological Survey

Prepared in cooperation with

County of Frederick

Hydrogeology and Ground-Water Availability in the Carbonate Aquifer System of Frederick County, Virginia

Scientific Investigations Report 2004-xxxx



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Hydrogeology and Ground-Water Availability in the Carbonate Aquifer System of Frederick County, Virginia

By George E. Harlow, Jr., Randall C. Orndorff, David L. Nelms, David J. Weary and Roger M. Moberg

Scientific Investigations Report 2004-xxxx

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County of Frederick

Richmond, Virginia
2004

Internet Sites

- **Water Resources of Virginia**

<http://va.water.usgs.gov/>

- **Frederick County Project**

<http://va.water.usgs.gov/projects/va134.html>

- **Clarke County Project**

<http://va.water.usgs.gov/projects/va146.html>

- **Warren County Project**

<http://va.water.usgs.gov/projects/va142.html>

- **Shenandoah River Minimum Instream Flow Project**

<http://va.water.usgs.gov/projects/va111.html>

- **Great Valley Water-Resources Science Forum**

<http://va.water.usgs.gov/GreatValley/Index.htm>